small-scale food production

PUBLICATION 1574 1976

Copies of this publication may be obtained from
INFORMATION DIVISION
CANADA DEPARTMENT OF AGRICULTURE
OTTAWA
K1A 0C7

INFORMATION CANADA, OTTAWA, 1976

5M–5:76

Each year, it seems that an increasing number of people are raising food crops or animals on a small scale. Some do it for recreation, some to become more self-sufficient in food, and others for supplemental income, or to recover taxes on land or buildings.

Whatever your motive may be, you are probably interested in what has to be put into the operation and what you can expect to get out of it. The following table gives some idea of the production potential of various enterprises, as well as essential components of capital investment, operating expenses and labor.

Although much of the world's food comes from large-scale production, that doesn't rule out smaller-scale producers on a part-time basis. In fact, the little fellow can often provide goods and services neglected by the chain stores and large supermarkets. A small-scale operator generally has better control over his production and can therefore spot problems before they become serious. Success depends to a large extent on his knowledge and experience, and his ability to select and manage the production requirements of his particular resources.

Anyone who can build a reputation for reliability and quality for a particular commodity invariably has a ready market.

A part-time entrepreneur may have an opportunity to lease land for production, or to produce on franchise or contract with a company in the business. Or he may come to some agreement to supply food processors, seed companies, poultry breeders or packing houses with the type of product they need.

As a small-scale producer, you will probably be able to market most of your produce as you wish. However, grading or marketing regulations may apply to some commodities, depending on the province in which you live. Be sure to contact your provincial department of agriculture to find out about marketing any food commodities you are planning to sell.

There are many other food-raising enterprises besides the ones mentioned here. For more details, contact your local agricultural representative or write to the Extension Branch, Department of Agriculture, in the capital city of your province. They can advise you on the best choice of enterprises for your particular area.

A number of Canada Department of Agriculture publications on agricultural enterprises are listed at the end of this publication.

livestock and poultry

Type of Enterprise	Potential Production	Components of Production: Property and Equipment Investment	Components of Production: Operating Expense	Components of Production: Labor and Management
Beef cow herd Raise brood cow, and calf to weaning	1 calf/cow/yr	Hayland and pastureland Winter shelter Minimum 3 ac/cow Fencing	20 lb hay/day/cow 1½ tons grain/yr/cow	Daily care Close attention at calving time
Stocker calves Raise weaned calves to finishing stage	500–600 lb gain/hd	Hayland and pastureland Winter shelter Fencing	8–10 lb grain/lb gain Cost of calves	Daily care of feeding and health
Feeder cattle Finish cattle for market	300 lb gain/hd	Feedlot	20 lb grain/day/hd Cost of feeders Some hay or grass silage Feed supplements Veterinary service	Efficient feeding and health management
Goats For milk	2000 lb milk/yr	Hayland and pastureland Winter shelter	1½–2½ lb grain/day Hay and pasture	Daily care and feeding Milking
Ewe flock Raise ewes for lambs to weaning	1 to 2 lambs/yr	Min ¼ ac pasture/ewe Winter shelter Fencing	300 lb grain/ewe ½–¾ tons of hay/ewe Veterinary service and medicine	Daily care of health and feeding Close attention at lambing time Twice daily feeding, or once a day on full feed
Feeder lambs Weaned lambs finished for market	50 lb gain on marketed lambs up to ½ lb gain/day	Hayland or pastureland Feedlot	50/50 grain hay 6 lb feed/lb gain Cost of lambs Veterinary service and medicine	Efficient feed management Care of health

Type of Enterprise	Potential Production	Components of Production: Property and Equipment Investment	Components of Production: Operating Expense	Components of Production: Labor and Management
Sow herd Raise sows for pigs to weaning	15 to 20 pigs/sow/yr	Well-ventilated shelter Supplemental heat in winter Farrowing crates	10 lb feed/day/sow Veterinary service	Rigid health standards Special care of small pigs Daily care and feeding Good records
Feeder pigs Raise weaned pigs to market	160–170 lb gain on marketed pigs Check provincial market quotas	Winter shelter Feeding pens	500–600 lb feed/ 150 lb gain Cost of weaners Veterinary service and medication	Efficient feeding and health care
Dairy cow herd Brood cow to produce milk and to raise calf to weaning	8000–10,000 lb milk/yr	Warm barn Fencing Hayland and pastureland Cream separator Good water supply	15–20 lb hay/day 1 lb grain/4 lb milk produced	Daily care Twice a day milking Keep milk records
Raise heifer calves to freshen	1 animal unit/ac	Warm barn (winter) Shelter (summer) Hayland and pastureland Water supply Fencing	10 lb hay/day 2 lb grain	Daily care
Laying hens Raise hens for egg production; purchased as pullets ready-to-lay	Must obtain quota from local prov. egg board 240 eggs/hen/yr	Enclosed pens or laying cages Feeding and watering equipment	$4\frac{1}{4}$ lb feed/doz eggs Cost of started pullets	Efficient feeding and health care Egg gathering and handling
Chickens Broilers or roasters	Must obtain quota from local prov. broiler board 3–5 lb gain (broilers) 5–8 lb gain (roasters)	Enclosed pens Feeding, watering and brooding equipment	Cost of chicks $2\frac{1}{2}$–$3\frac{1}{2}$ lb feed/lb gain	Efficient feeding and health care

Type of Enterprise	Potential Production	Components of Production: Property and Equipment Investment	Components of Production: Operating Expense	Components of Production: Labor and Management
Turkeys Lightweight or heavyweight	Must obtain quota from local prov. turkey board Lightweight: 6–10 lb gain Heavyweight: 10–16 lb (female) Heavyweight: 16–30 lb (male)	Enclosed pens or range with shelters (heavies) Feeding, watering and brooding equipment	3–4 lb feed/lb gain Cost of poults	Efficient feeding and health care
Geese For meat, eggs for hatching, feathers	20–25/ac on range 8–50 eggs/bird/yr 10–20 lb meat	Range Winter shelter Nests Fencing Water fowl incubator	Feed grain or pellets in winter Grass during summer, plus some grain supplement	Daily care and feeding Have fertility and hatching problems Good foragers Used to weed strawberries Difficult to have small flocks processed
Ducks For meat, eggs for hatching, feathers	160–300 eggs/yr 5–10 lb meat	Range Shelter Nests Fencing Water fowl incubator	Feed grain or pellets, if raised commercially Farm ducks, grass plus grain or pellets	Daily care and feeding Difficult to have small flocks processed
Exotic poultry breeds For pets or exhibition	Variable	Winter shelter Incubator Brooder Ranges Individual pens with runs for breeding	Feed grain Cost of breeding pair (or trio), or dozen hatching eggs Sales	Daily care and feeding Eggs must be identified if for sale and incubation
Rabbits For meat or pets	40–60 young/doe/yr	Winter shelter Pens or cages	Grain, hay or pellets	Daily care and feeding Production varies with breed selected

Type of Enterprise	Potential Production	Components of Production: Property and Equipment Investment	Components of Production: Operating Expense	Components of Production: Labor and Management
Boarding horses	$1–$4/day, depending on services	Winter shelter Paddock	Feed varies with size of horse and activity 10–12 lb hay and 6–10 lb grain for 1000–lb horse	Daily care of feeding and health

field crops

Type of Enterprise	Potential Production	Components of Production: Property and Equipment Investment	Components of Production: Operating Expense	Components of Production: Labor and Management
Grazing land Rent for growing young cattle for beef or dairy herds	1/5 to 3 animal units/ac	Pastureland Fencing Water supply	Fertilizer	Daily care of livestock Controlled grazing
Hay	1 to 5 tons/ac	Hayland Tractor power Seeding and harvesting equipment	Fertilizer Seed Fuel	Harvesting Harvest at optimum stage of digestibility
Grass silage	2 to 10 tons/ac	Hayland Tractor power Seeding and harvesting equipment Silo	Fertilizer Seed Fuel	Harvesting Equipment for heavy bulk handling

Type of Enterprise	Potential Production	Components of Production		
		Property and Equipment Investment	Operating Expense	Labor and Management
Corn silage	5 to 20 tons/ac	Good tillable land in area of adaptation High degree of mechanization Silo Tractor power	Fertilizer Herbicides Seed Fuel	High fertility Harvesting Cultivation Annual seeding Weed spraying
Grain corn	40 to 125 bu/ac	Good tillable land in area of adaptation High degree of mechanization Tractor power Crib	Fertilizer Herbicides Seed Fuel	High fertility Harvesting Cultivation Annual seeding Weed spraying
Grain and oilseeds For milling, oil extraction or livestock feed	20 to 100 bu/ac depending on type and growing conditions	Good tillable land Seeding, cultivation and harvesting equipment Tractor power Storage bins	Fertilizer Seed Herbicides Fuel	Cultivation Annual seeding Harvesting Seasonal labor Grow disease-resistant varieties
Pedigreed seed	Variable. Usually commands premium for varietal purity	Good tillable land Suitable cultural equipment Tractor power Seed cleaning equipment	Fertilizer Pedigreed seed Fuel	Specialized knowledge and experience Application for crop inspection Isolation and pedigree standards Membership in the Canadian Seed Growers' Association for cereal and forage seed production Seeding Special harvest techniques Weed control Rogueing

horticultural crops

Type of Enterprise	Potential Production	Components of Production: Property and Equipment Investment	Components of Production: Operating Expense	Components of Production: Labor and Management
Strawberries	6000–8000 lb/ac	Good tillable land Biennial plantation	Nursery plants Fertilizer Containers Economical control of weeds, insects and diseases requires expert skill and management	Picking Weed control Planting Production for one or more years after planting
Raspberries	1–2 tons/ac	Good tillable land Perennial plantation	Nursery plants Fertilizer Containers	Picking Weed control Pruning
Highbush blueberries	4000–6000 pints/ac	Tillable acid soil Perennial plantation	Nursery plants Fertilizer Soil conditioning Containers	Picking Weed control Pruning
Currants Gooseberries	Yields generally high in areas of adaptation	Good tillable land Perennial plantation	Nursery plants Fertilizer Containers	Picking Insect and weed control Pruning
Grapes	2–4 tons/ac	Good tillable land Tractor power Trellis Sprayer Perennial plantation	Fuel Nursery stock Fertilizer Pesticides Fungicides	Pruning Cultivation Harvesting
Apples	500–1000 bu/ac	Well-drained land Tractor power Long-term investment Spraying, harvesting, handling and cultural equipment	Fuel Nursery stock Fertilizer Economical control of insects, disease and weeds requires expert skill and management	Long-term investment Picking Spraying Pruning Cultivation Grading

Type of Enterprise	Potential Production	Components of Production: Property and Equipment Investment	Components of Production: Operating Expense	Components of Production: Labor and Management
Flowers Potted or cut flowers	High	Greenhouse, or controlled environment Potting and bench equipment Irrigation	Fuel for heat Propagating stock Fertilizer Insecticides Fungicides	Timely cultural practices Specialized skill and management
Garden flowers and vegetables for transplanting	High	Greenhouse Hotbed Coldframe	Fuel for heat Seed	Seeding Transplanting Timed to meet spring planting season
Native fruits Wild blueberries Saskatoons Elderberries, etc.	Yields tend to be high in scattered areas of adaptation	Write provincial departments of agriculture for locations and possible picking rights	Containers	Picking
Tree fruits Cherries, peaches, apricots, pears, plums	Yields generally high in areas of adaptation	Well-drained land Tractor power Cultural equipment Sprayer	Nursery stock Fertilizer Spray materials Fuel	Picking Pruning Spraying High marketing risk because of perishable nature
Vegetables For fresh market or processing Beans, peas, tomatoes, lettuce, sweet corn, cabbage, cauliflower, etc. For storage Potatoes, carrots, onions, rutabagas, etc. Perennial vegetables Asparagus, rhubarb, etc.	Yields generally high in areas of adaptation Some crops better adapted to certain types of soil (sandy loam, clay loam, or organic soil)	Good tillable, well-drained land Planting, harvesting, spraying equipment Tractor power	Fertilizer Pesticides Seed Fuel	Cultivation Weed control Harvesting Seeding Planting Reliable help for seasonal operations

woodlot, bees and other enterprises

Type of Enterprise	Potential Production	Components of Production: Property and Equipment Investment	Components of Production: Operating Expense	Components of Production: Labor and Management
Woodlot Maple Syrup	10 taps/gal syrup 40 gal sap/gal syrup	Mature maples Evaporator Buckets or plastic pipeline	Fuel Containers	Tapping Hauling or establishing pipeline Evaporating Cutting wood for fuel
Firewood	1 cord/ac/yr	Woodlot Tractor Chain saw	Fuel	Cutting Hauling
Christmas trees	250 marketable trees/ac after 8 years of growth	Woodland Cultural equipment	Cost of seedings Cultivation Pesticides	Planting Pruning Spraying Weed control
Bees	50–100 lb honey/hive	Enclosed extractor Hives and supers Winter shelter	Package bees Containers Winter feed	Care and management of hives Extracting Packaging
Mushroom growing	2.5 lb/sq ft growing area	Houses with controlled temperature, humidity and ventilation Horse manure or synthetic compost Provision to pasteurize compost Steam to fumigate soil	Spawn Compost Loam soil	Piling and turning compost Pasteurizing Harvesting
Mushroom collecting	Variable	Knowledge of production sites		Picking Know edible types

Type of Enterprise	Potential Production	Components of Production		
		Property and Equipment Investment	Operating Expense	Labor and Management
Fishworms	Found in damp organic soil	Knowledge of suitable site such as lawn, park or golf course Breeding box	20" × 14" × 6" box for rearing Loam soil Cattle or horse manure	Collecting or rearing
Farm Fish Pond	High	Pond large enough and deep enough not to freeze to the bottom	Feed Fish for stocking	Stocking Catching

PUBLICATIONS ON FOOD RAISING ENTERPRISES AVAILABLE FROM INFORMATION DIVISION, AGRICULTURE CANADA, OTTAWA, K1A 0C7

PUB. NO.	TITLE
LIVESTOCK AND POULTRY	
848	Raising Geese
1200	Raising Rabbits
1381	Livestock on Small Farms
1439	Dairy Husbandry in Canada
1456	Beef Production from the Dairy Herd
1489	Managing a Small Poultry Flock
1509	Broiler Raising in Canada
FIELD CROPS	
1025	Growing Corn
FRUIT GROWING	
1170	Growing Strawberries in Eastern Canada — Varieties
1172	" " " " " — Planting and Harvesting
1173	" " " " " — Diseases
1174	" " " " " — Insects
1196	Growing Red Raspberries in Eastern Canada
1282	Growing Cranberries
1553	Apple Growing in Eastern Canada
VEGETABLE GROWING	
861	Mushroom Collecting for Beginners
1059	Home Vegetable Growing
1158	Growing Savory Herbs
1205	How to Grow Mushrooms
1355	Growing Rutabagas
1369	Rhubarb Planting and Growing
1460	Soilless Culture of Commercial Greenhouse Tomatoes
1558	Growing Garden Tomatoes
1559	Growing Garden Potatoes

CONVERSION FACTORS FOR METRIC SYSTEM

Imperial units	Approximate conversion factor	Results in:	
LINEAR			
inch	x 25	millimetre	(mm)
foot	x 30	centimetre	(cm)
yard	x 0.9	metre	(m)
mile	x 1.6	kilometre	(km)
AREA			
square inch	x 6.5	square centimetre	(cm^2)
square foot	x 0.09	square metre	(m^2)
acre	x 0.40	hectare	(ha)
VOLUME			
cubic inch	x 16	cubic centimetre	(cm^3)
cubic foot	x 28	cubic decimetre	(dm^3)
cubic yard	x 0.8	cubic metre	(m^3)
fluid ounce	x 28	millilitre	(ml)
pint	x 0.57	litre	(ℓ)
quart	x 1.1	litre	(ℓ)
gallon	x 4.5	litre	(ℓ)
bushel	x 0.36	hectolitre	(hl)
WEIGHT			
ounce	x 28	gram	(g)
pound	x 0.45	kilogram	(kg)
short ton (2000 lb)	x 0.9	tonne	(t)
TEMPERATURE			
degrees Fahrenheit	(°F-32) x 0.56 or (°F-32) x 5/9	degrees Celsius	(°C)
PRESSURE			
pounds per square inch	x 6.9	kilopascal	(kPa)
POWER			
horsepower	x 746	watt	(W)
	x 0.75	kilowatt	(kW)
SPEED			
feet per second	x 0.30	metres per second	(m/s)
miles per hour	x 1.6	kilometres per hour	(km/h)
AGRICULTURE			
gallons per acre	x 11.23	litres per hectere	(ℓ/ha)
quarts per acre	x 2.8	litres per hectare	(ℓ/ha)
pints per acre	x 1.4	litres per hectare	(ℓ/he)
fluid ounces per acre	x 70	millilitres per hectare	(ml/he)
tons per acre	x 2.24	tonnes per hectare	(t/ha)
pounds per acre	x 1.12	kilograms per hectare	(kg/he)
ounces per acre	x 70	grems per hectare	(g/ha)
plants per acre	x 2.47	plants per hectere	(plants/ha)